TRI-AGENCY FORECAST DISCUSSION FOR JULY 25, 2010

Tropical Areas of Interest Discussion: Created 1700 UTC July 25, 2010

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Summary: It's a quiet day in the tropical Atlantic Basin with very little organized low-level convection, and a continued dominance by upper level low pressure systems and the Subtropical ridge. A dry air/dust outbreak and deep layer easterlies are present over the central Atlantic all the way into the Caribbean Sea, and the ITCZ is barely present in this region. As ex-TD Bonnie is now over land producing thunderstorms over parts of southern Louisiana, Mississippi, Alabama and the Florida panhandle, no further re-intensification of this system is expected. Surface observations in the area do not even suggest a low-pressure center remains any longer. Some convection flared mid-morning with it, and its arrival in the northern GOM brought deep-layer moisture which will likely provide increased shower activity along the western gulf coast today. There are two tropical waves, one of which is associated with PGI-19L, an emerging wave from Africa (PGI-20L), a surface shortwave associated with an upper level low, and a region of vigorous convection in the southwest Caribbean. Other than a marginal development by the ECMWF of this convection in the Caribbean south of Haiti that is associated with a tropical wave (once PGI-18L), there are no forecasted developments of any systems in the next 24-48 hours by the global models. In pouch tracking, PGI-19L is persisted only by the NOGAPS at 925 mb. Today is either a hard down day or a no-fly day for most of the agencies.

Forecast for 1700 UTC 7/25/2010:

Near 1300 UTC a convective burst over southeastern Louisiana represented the only weather associated with ex-TD Bonnie. The upper-level low which has been near Bonnie for days is still present over central Texas. Wind shear analysis for Bonnie over last day showed how upper level easterly shear inhibited its convection. While the convection in Louisiana and southwestern Mississippi (*see **1***) is bringing rain to the area, ex-Bonnie is no longer a tropical system of note.

The tropical Atlantic Basin is quiet today with just a few features to note (*see **2***). In fact, the ITCZ is barely present in satellite imagery across the central Atlantic. A tropical wave is located from 36W, 15N to 39W, 6N in the central Atlantic Ocean. No convective activity is associated with this wave; however cyclonic flow is evident in the visible GOES imagery (see ***3***). A tropical wave is located from 70W, 20N to 72W, 10N in the eastern Caribbean Sea. Saharan air has entered the area according to the CIMMS SAL index, and total precipitable water near this wave is very low. As a result, this wave is not producing shower activity either (*see **4***). The next easterly wave is emerging from Africa today and its associated pouch has been given the name PGI-20L (*see **5***). Convection has been good over land with this system for the past few days and how well organized the system will become remains to be seen.

A tropical upper tropospheric trough is located over the island of Cuba, and is interacting with a region of vigorous convection to the southwest of Jamaica and east of El Salvador. The TUTT can clearly be seen in CIMMS satellite-derived upper level winds (*see **6***) and the region of convection is also near a surface low which formed inland over northern Columbia but has now moved west off of the coast. This region has created a local divergent circulation with upper level westerlies

(*see **6***) to the east of the most vigorous convective activity, and is the only portion of the tropical Atlantic or Caribbean which is convectively active (*see **3***). However wind shear is high over this region and the convection does not show much organization, and model forecasts do not develop this feature into a tropical cyclone.

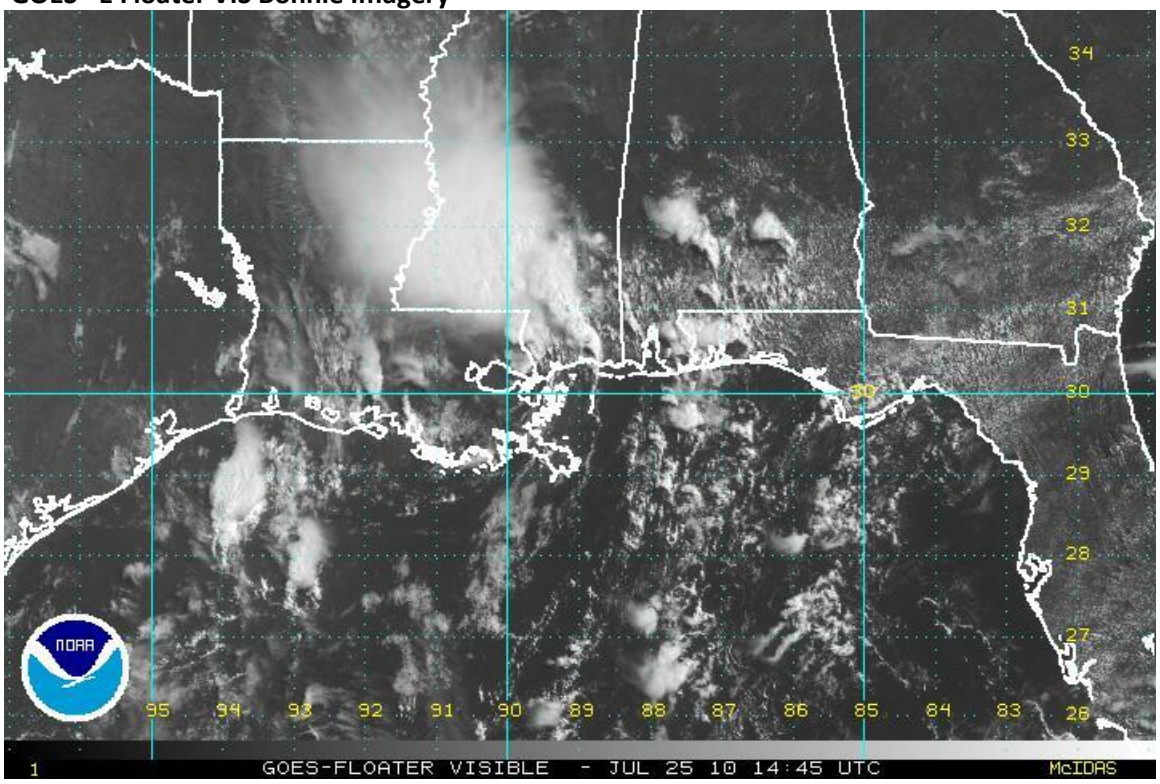
Most of the global models are not showing favorable development conditions for any system in the next 24-48 hours, with the only exception being the ECMWF. This model takes the convection associated with the tropical wave in the central Caribbean and marginally develops it over the next 24 hours with winds less than 20 m/s, gradually persisting these conditions into the Yucatan Peninsula in 72 hours (*see ECMWF link, **7***). In pouch tracking analysis provided by the Montgomery NPS website, only the 925 hPa NOGAPS forecast predicts that PGI-19L will persist with very slow marginal development, if any (*see **8a***). The low level vorticity associated with this system has been difficult to analyze, let alone initialize in the models. Currently, the shear environment over PGI-19L is not entirely unfavorable, and may be contributing to this forecast, despite the dry conditions there. Also, the pouch tracking on PGI-20L is a slow degradation by the ECMWF, the GFS, and the NOGAPS anywhere between the next 2 to 4 days (*see **8b***). Tropical cyclone development is not expected anywhere in the tri-agency domain during the next 48 hours.

Links to resources used in discussion:

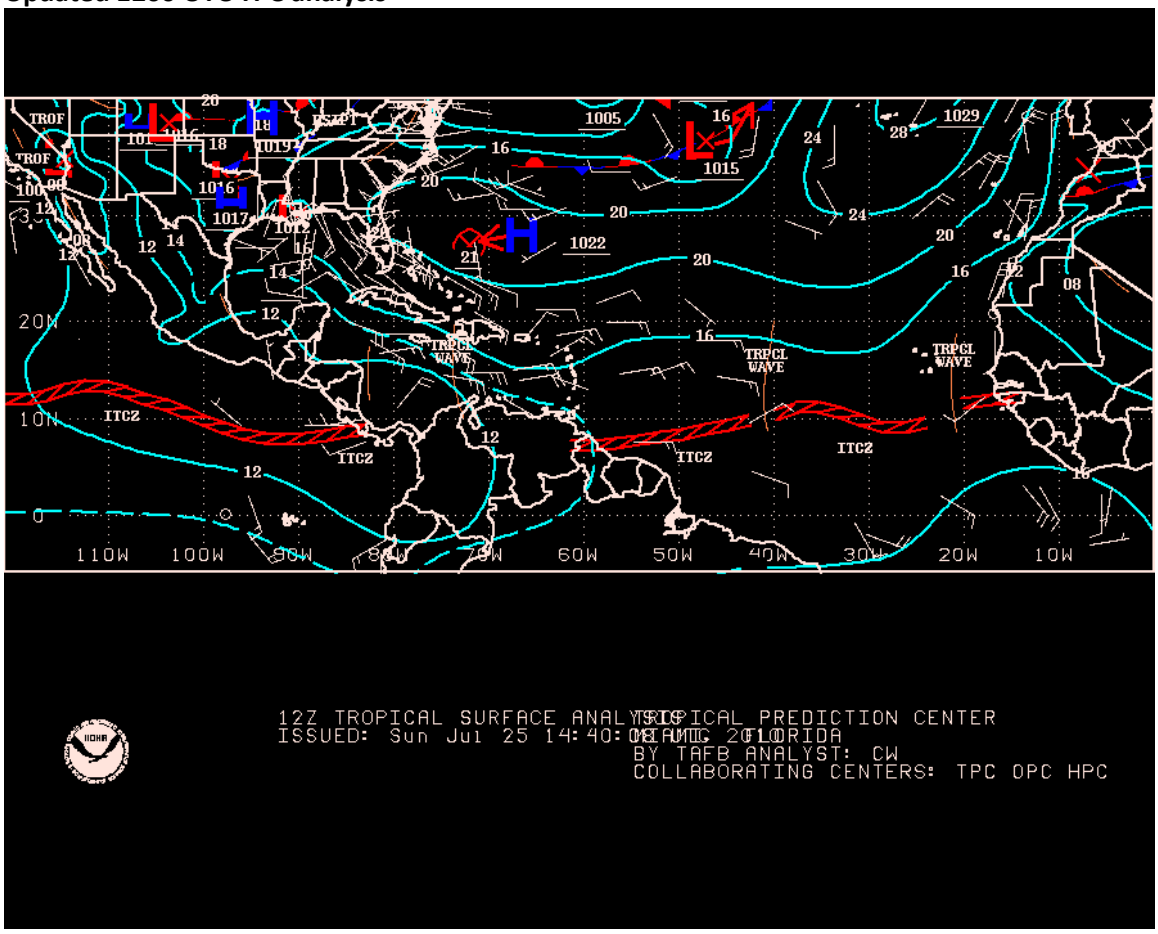
1: GOES-E Floater VIS Bonnie: http://www.ssd.noaa.gov/goes/flt/t1/vis-l.jpg
2: Updated 1200 UTC TPC analysis http://www.nhc.noaa.gov/tafb/ATSA_12Z.gif
3: GOES-E visible Atlantic wide view
GOES-E NW Atlantic View of Water Vapor: http://www.ssd.noaa.gov/goes/east/nwatl/wv-l.jpg
4: CIMSS SAL index: http://cimss.ssec.wisc.edu/tropic2/real-time/salmain.php?&prod=splitEW&time=
5: Montgomery analysis of PGI-20L on Meteosat image of wave:
http://www.met.nps.edu/~mtmontgo/satanalatl2010/IR-Meteosat-2010072500.jpg
6: CIMSS Upper Level Winds Analysis: http://cimss.ssec.wisc.edu/tropic2/real-time/windmain.php?&basin=atlantic&sat=wg8&prod=wvir&zoom=&time=
7: ECMWF forecast for N. America link:
http://www.ecmwf.int/products/forecasts/d/charts/medium/deterministic/msl_uv850_z500!Wind%20850%20and%20mslp!0!North%20America!pop!od!oper!public_plots!2010072500!!/
8a and 8b: Montgomery Analysis of PGI-19L in NOGAPS (8a) and Analysis of PGI-20L in ECMWF: http://www.met.nps.edu/~mtmontgo/storms2010.html

Static Images used in discussion:

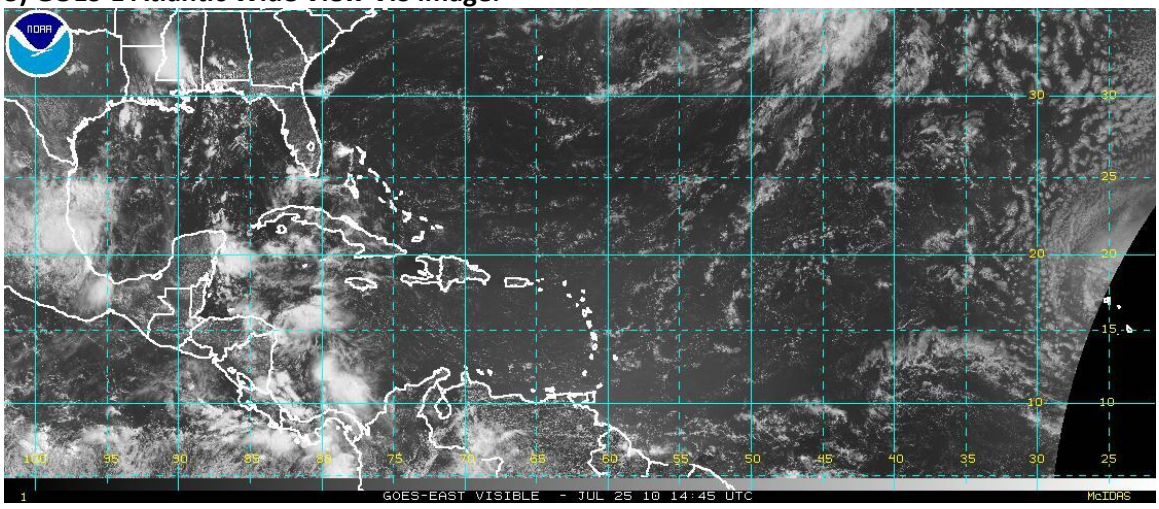
1) GOES –E Floater VIS Bonnie Imagery



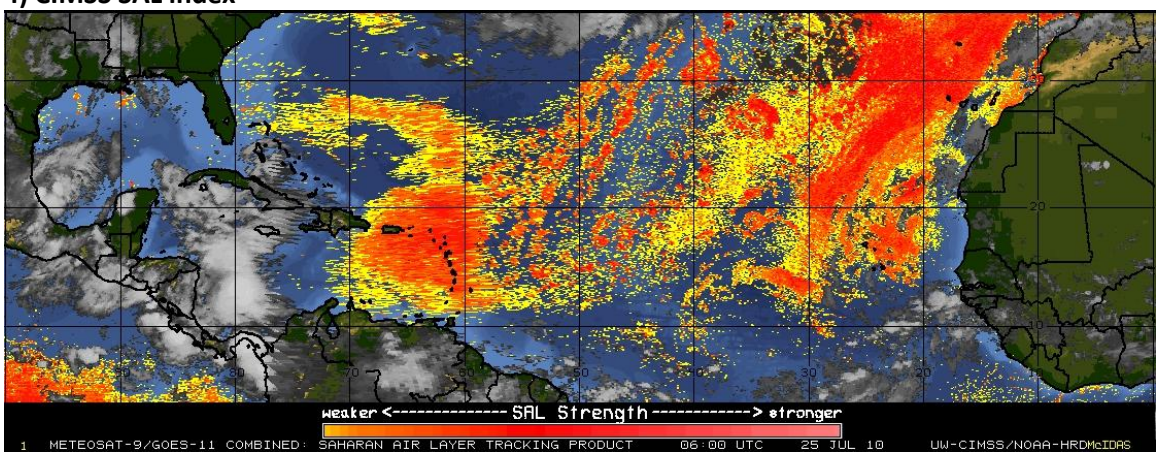
2) Updated 1200 UTC TPC analysis



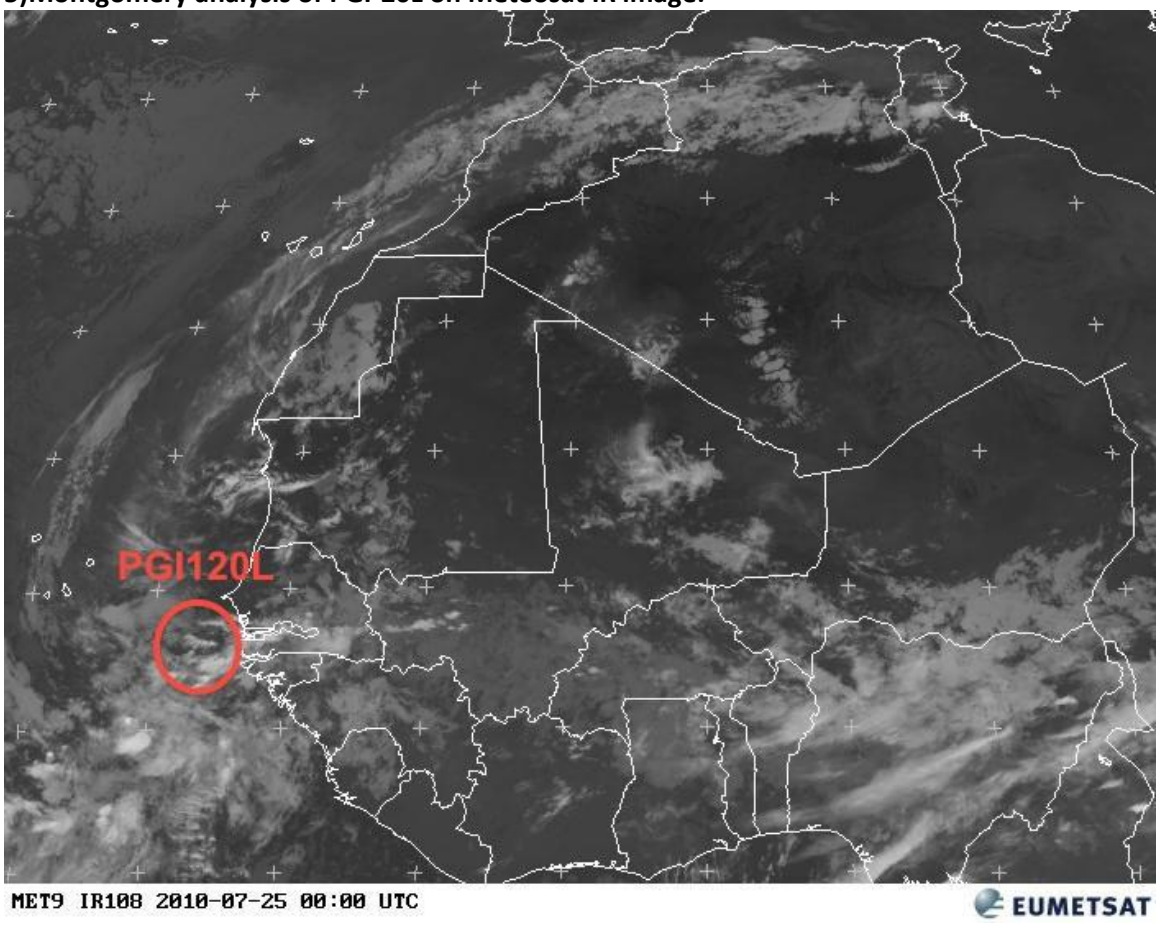
3) GOES-E Atlantic Wide View VIS image:



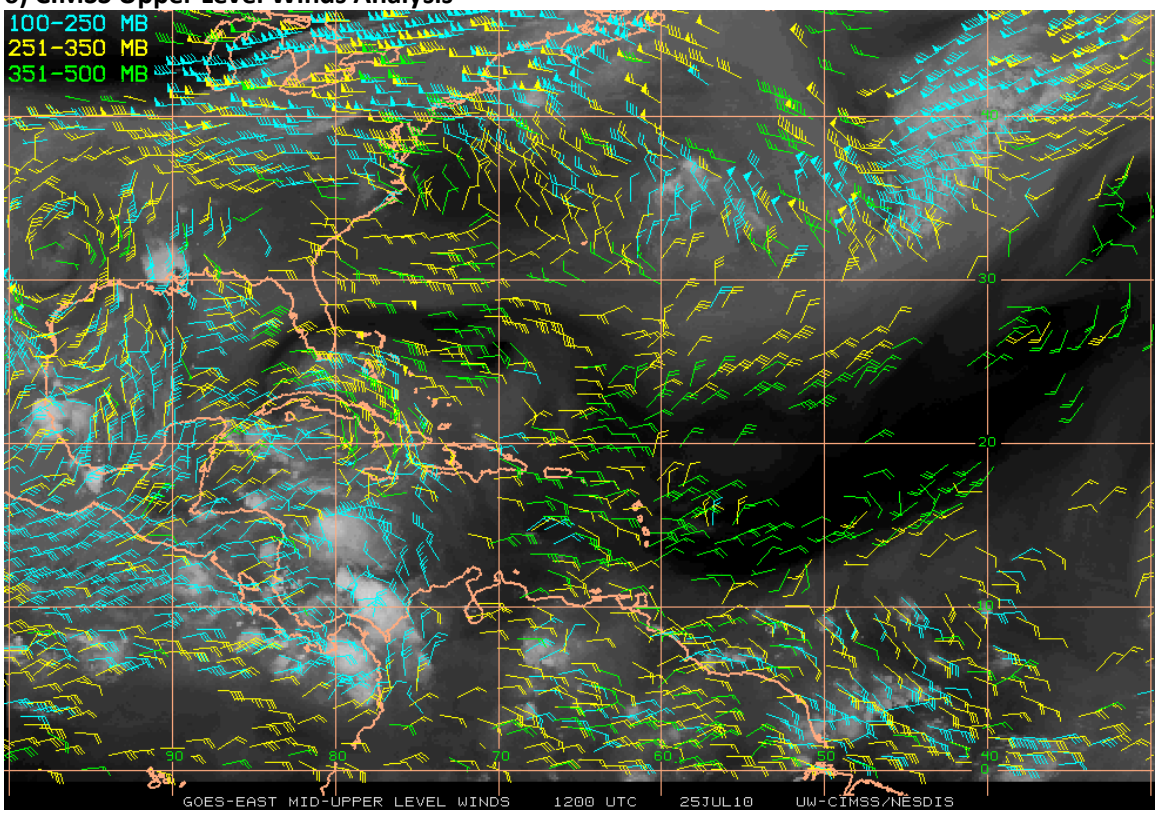
4) CIMSS SAL index



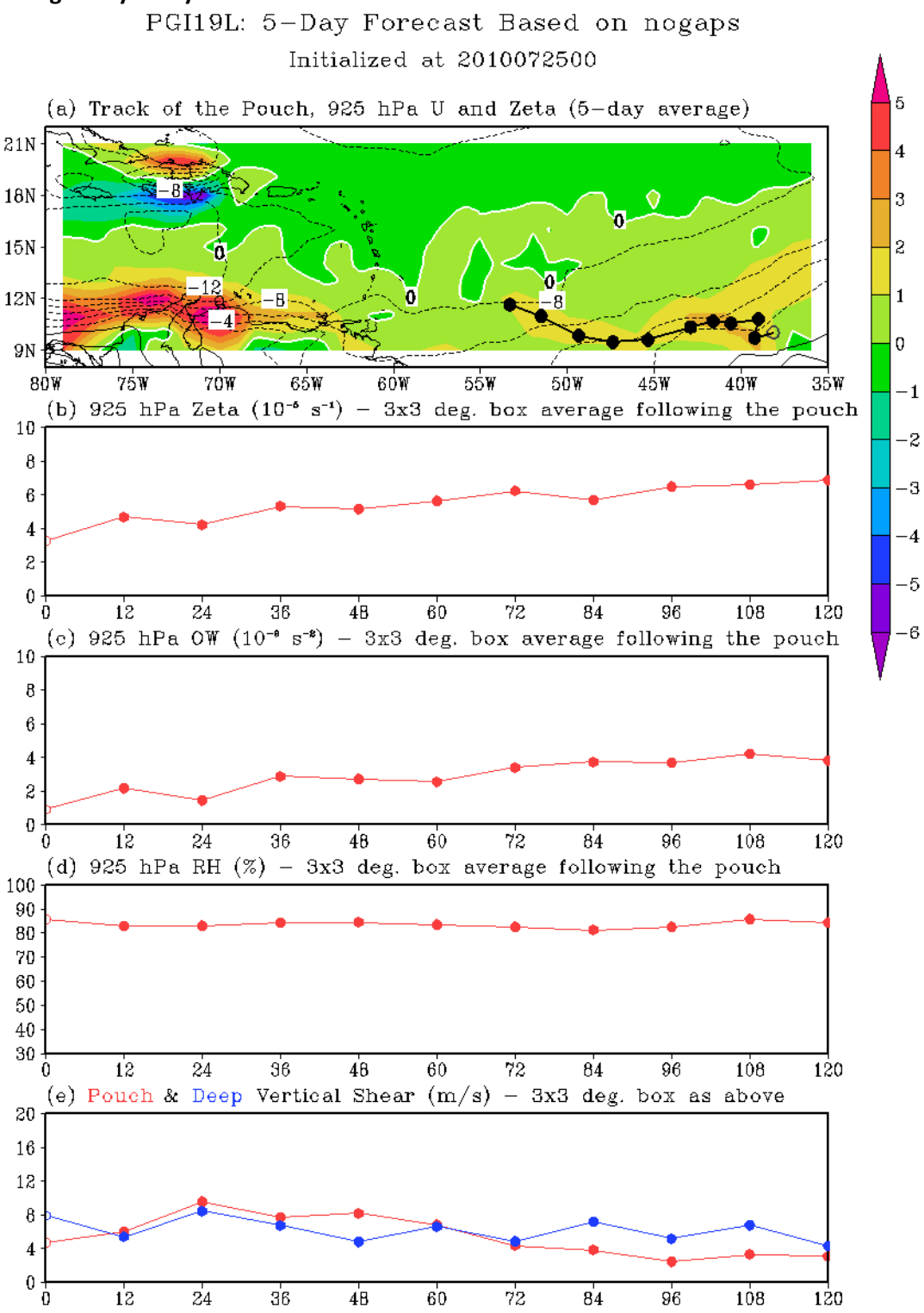
5)Montgomery analysis of PGI-20L on Meteosat IR image:



6) CIMSS Upper Level Winds Analysis



8a) Montgomery Analysis of PGI-19L in NOGAPS:



8b) Montgomery Analysis of PGI-20L in ECMWF: